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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,845	12/09/2003	Michael Kilian	E0295.70198US00	4408
23628 7590 09/20/2007 WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			EXAMINER TAYLOR, NICHOLAS R	
			ART UNIT 2141	PAPER NUMBER
			MAIL DATE 09/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/731,845

Applicant(s)

KILIAN ET AL.

Examiner

Nicholas R. Taylor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 27-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 8/20/07.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/1/05; 5/2/06; 6/12/06; 8/7/06; 3/22/07;12/9/03; 8/21/07.

DETAILED ACTION

1. Claims 1-47 were subject to a restriction requirement. Elected claims 1-26 have been examined and are rejected.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-26, drawn to creating a content address for data storage, classified in class 709, subclass 245.
 - II. Claims 27-47, drawn to a method for managing a content address-mapping index, classified in class 709, subclass 226.

The inventions are distinct, each from the other because the inventions are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination group I has separate utility as a method for creating content addresses in a content addressable storage system. Group II has separate utility as a method for managing a content address-mapping index in a content addressable storage system. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the

allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Scott Gerwin on August 20th, 2007, a provisional election was made without traverse to prosecute the invention of group I, claims 1-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

3. Claims 2 and 13 are objected to because of the following minor informality: use of a period in the "(b)" elements. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 5, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation "the hash." There is insufficient antecedent basis for this limitation in the claim. For the purpose of this office action, it is interpreted that the claims correctly depend from dependent claim 3.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1-26 are rejected under 35 U.S.C. 102(a) as being anticipated by Tolia, et al. ("Opportunistic Use of Content Addressable Storage for Distributed File Systems").

8. As per claims 1, 12, and 23, Tolia teaches a method of processing data in a computer system comprising at least one host and at least one content addressable storage system which stores units of data for the at least one host, wherein the at least one host accesses a unit of data using a content address based at least in part on the

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content of the unit of data, the method comprising an act of: (Tolia, section 5 implementation and fig. 2)

(a) creating the content addresses for units of data to comprise first information that provides an indication of which units of data are written to the storage system proximate in time (Tolia, section 3 recipes discussion).

9. As per claims 2, 13, and 24, Tolia teaches the system further comprising acts of:

(b) accessing one of the units of data by providing the content address for the one of the units of data to the storage system (c) considering the first information the content address for the one of the units of data in determining where within the storage system to store the one of the units of data (Tolia, section 3 recipe discussion; see fig. 1 sample file recipe).

10. As per claim 3, Tolia teaches the system further wherein the act (a) comprises, for one of the units of data, acts of:

creating a hash of at least a portion of the unit of data; and inserting the first information in the hash to create the content address for the one of the units of data (Tolia, see hash creation and discussion of section 3).

11. As per claim 4, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one host (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

12. As per claim 5, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one storage system (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

13. As per claim 6, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one storage system and the at least one host (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

14. As per claim 7, Tolia teaches the system further wherein the first information includes at least a portion of a timestamp relating to when the one of the units of data is written to the at least one storage system (Tolia, see recipe section 3 and, e.g., the file structure of figure 1 with respect to timestamp usage).

15. As per claims 8 and 19, Tolia teaches the system further wherein the act (b) comprises an act of using at least a portion of the first information to select a storage location within the at least one storage system for storing the one of the units of data, and wherein the method further comprises an act of storing the one of the units of data in the selected storage location (Tolia, section 3 recipes discussion).

16. As per claims 9 and 20, Tolia teaches the system further wherein the first information is used by the at least one content addressable storage system to select a storage location within the at least one content addressable storage system for storing at least one of the units of data and wherein the storage location is a logical storage location within a file system on the at least one storage system (Tolia, sections 3, 4, and 5; figs. 1 and 2).

17. As per claims 10 and 21, Tolia teaches the system further wherein the method further comprises using the first information as a key to a database table (Tolia, sections 3, 4, and 5; figs. 1 and 2).

18. As per claims 11 and 22, Tolia teaches the system further wherein the first information is used by the at least one content addressable storage system to select a storage location within the at least one content addressable storage system for storing at least one of the units of data and wherein the storage location is a physical storage location within the at least one storage system (Tolia, sections 3, 4, and 5; figs. 1 and 2).

19. As per claim 14, Tolia teaches the system further wherein the act (a) comprises, for one of the units of data, acts of: creating a hash of at least a portion of the unit of data; and inserting the first information in the hash to create the content address for the one of the units of data (Tolia, see hash creation and discussion of section 3).

20. As per claim 15, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one host (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

21. As per claim 16, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one storage system (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

22. As per claim 17, Tolia teaches the system further wherein the act of inserting the first information in the hash further comprises creating the first information at the at least one storage system and the at least one host (Tolia, e.g., the discussion of the recipe service implementation in section 5.1).

23. As per claim 18, Tolia teaches the system further wherein the first information includes at least a portion of a timestamp relating to when the one of the units of data is written to the at least one storage system (Tolia, see recipe section 3 and, e.g., the file structure of figure 1 with respect to timestamp usage).

24. As per claim 25, Tolia teaches the system further wherein the controller, for one of the units of data: creates a hash of at least a portion of the unit of data; and inserts

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the first information in the hash to create the content address for the one of the units of data (Tolia, see hash creation and discussion of section 3).

25. As per claim 26, Tolia teaches the system further wherein the first information includes at least a portion of a timestamp relating to when the one of the units of data is written to the at least one content addressable storage system (Tolia, see recipe section 3 and, e.g., the file structure of figure 1 with respect to timestamp usage).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes:

U.S. Patent No. 6,601,090, which describes a method of content based caching using a content addressed system;

U.S. Patent No. 7,062,570, which describes a content based network routing system using a cache server; and

U.S. PGPub 2005/0091469, which describes a method of managing a flexible content addressed storage interface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Taylor whose telephone number is (571) 272-3889. The examiner can normally be reached on Monday-Friday, 8:00am to 5:30pm, with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NTL *TX* 9-10-07

Nicholas Taylor
Examiner
Art Unit 2141

Andrew Caldwell

ANDREW CALDWELL
PATENT EXAMINER